Zambia - Innovation Grant - Zambian Breweries Grantee

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Overview

Identification

COUNTRY
Zambia

EVALUATION TITLE
Innovation Grant - Zambian Breweries Grantee

EVALUATION TYPE
Independent Performance Evaluation

ID NUMBER
DDI-MCC-ZAM-IGP-ZB-2017-v01

Version

VERSION DESCRIPTION
- v01: Edited, anonymous dataset for public distribution.

Overview

ABSTRACT
The performance evaluation of Zambian Breweries' Manja Pamodzi program examines how Zambian Breweries is performing in relation to its key objectives, which are to create a sustainable collection-and-recycling value chain for post-consumer packaging waste; formalize largely informal networks of collectors and aggregators (by providing them with the tools and capacity to collect greater quantities of recyclables); and reduce the amount of waste in Lusaka. To understand Zambian Breweries' overall performance, we examined program activities, program assumptions, mechanisms of change, and outputs. We adopted a mixed-methods approach to investigate the fidelity of program implementation and to learn whether program delivery deviated from the original plan and how those deviations affected program outputs. We also explored changes in outcomes, although the outcome analysis for collectors is descriptive rather than focused on program impacts. We were not able to rigorously evaluate the impacts of the program due to the lack of baseline data and the small sample of waste collectors.

The research questions driving this evaluation fall into six main topics related to program processes: (1) the start-up process; (2) community campaigns and outreach; (3) collectors' recruitment and experience; (4) aggregators' recruitment and experience; (5) processors' capacity and needs; and (6) waste in the environment. We examined how Manja Pamodzi engaged stakeholders throughout the program lifecycle; how collectors, aggregators, and processors experienced the program; and whether and how Manja Pamodzi changed collectors' livelihoods and improved waste management practices in communities.

Research questions per each program process

1. The Start-Up Process

· What was the process of working with relevant stakeholders in starting up the program?

· How was the price set?

2. Community campaigns and outreach

· How did Zambian Breweries conduct waste collector community clean-up sensitization, and to what extent were communities being sensitized on the benefits of recycling?

· What messages were used during the campaign? Which were perceived to be emphasized? And which were perceived to be more effective?

· How has the Manja Pamodzi program engaged with schools to encourage effective waste management practices?

3. Collectors' recruitment and experience

· How did Zambian Breweries conduct recruitment, training of collectors and capacity building?

· What program gaps exist that discourage waste collectors from joining and from becoming dedicated collectors?

· What types of persons are interested in becoming collectors, and what types of persons are likely to continue being successful collectors? What are the characteristics associated with being successful and productive?

· What has been waste collectors' experience in collecting recyclables?

· What does a typical day of waste collection look like? What processes could be improved to make the collectors' experience more productive?

4. Aggregators' recruitment and experience

· How were aggregators' sites set up? Who signed up to be aggregators? How were aggregators supported by the Manja Pamodzi program?

· How effective do the aggregators find the biometric machines? What are the main challenges experienced during the process of receiving recyclables from collectors?

· What are the main challenges experienced during the process of transferring waste from aggregator plants to processor plants?

5. Processors' capacity and needs

· How has Manja Pamodzi changed the demand for recyclables and for recyclables byproducts?

· Are processors able to receive enough sorted plastic and paper?

6. Collectors' Income and Livelihood

· How do collectors spend and use the income coming from sale of recyclables?

· What does the employment and income history look like for collectors, before and after they became collectors?

· In terms of income, what kinds of jobs is a collector's comparable to, given the setting and the profile of the collector's job?

· What are the perceptions of the dignity of the job among community members and among collectors?

7. Waste in the environment

· From where are most recyclables collected? What types of places, and what are the hazards associated with accumulation of waste in those places?

· What is the perceived change of the program on waste accumulation?

AIR investigated the evaluation questions above through several quantitative and qualitative methods, including a survey of Manja Pamodzi waste collectors (both active and inactive male and female collectors), focus group discussions (FGDs) with active and inactive male and female collectors and local students, key informant interviews (KIIs) with relevant program stakeholders, and a time-motion study to investigate the “typical day” of a Manja Pamodzi waste collector as well as overall waste collection efficiency. Data collected through these methods were bolstered by and triangulated with official program documents obtained from Zambian Breweries Plc. and the Millennium Challenge Account-Zambia (MCA-Z).

Summary of Main Findings

Community Campaign, Outreach, and Experience

Zambian Breweries Plc. continued to conduct sensitization events with communities throughout Lusaka and nearly always met and exceeded sensitization targets. The program missed its quarterly sensitization targets between December 2017 and February 2018-due to the cholera outbreak in the city that forced ZB Plc. to temporarily halt waste collection activities like

DCPs-but cumulatively met its sensitization targets, owing to a major uptick in sensitization efforts between March and August 2017.

Between R1 and R2, the sensitization process remained largely the same. In an effort to garner community-level support for Manja Pamodzi, ZB Plc. continued to conduct community engagement events throughout Lusaka-including DCPs, community sensitization meetings, and thematic workshops at local schools-and promoted the program through radio, TV, newspaper, and social media advertisements.

While Manja Pamodzi met its sensitization targets throughout the program lifecycle, qualitative and quantitative data collected in R2 show that community members were marginally less aware of Manja Pamodzi during the second round of data collection when compared to the first round.

The Aggregator Experience Under Manja Pamodzi

Aggregator Recruitment

Zambian Breweries Plc. adopted several strategies to identify aggregators, but struggled to recruit female aggregators throughout the program. .

A key barrier to recruiting female aggregators was the preference for selecting aggregators with previous business and waste management experience.

Aggregator Capacity Building and Site Set-Up

Aggregators reported that Zambian Breweries Plc.'s general and entrepreneurship trainings improved their overall site set-up experience, but believed that the monthly aggregator meetings were less effective.

ZB Plc. also assisted aggregators with identifying land and setting up operations for aggregation sites, but still faced challenges procuring land for permanent sites and establishing electrical connections at sites.

Challenges Faced by Aggregators

MP aggregators believed transporting waste, collector retention, and providing payment to waste collectors upon receipt of waste represented their main challenges.

The Collector Experience Under Manja Pamodzi

Similar to the first round of data collection, married, female heads of households who engaged in waste collection in addition to other types of work constituted the majority of Manja Pamodzi waste collectors.

Collector Recruitment and Capacity Building

Most Manja Pamodzi collectors were recruited through DCPs, aggregators, or social networks, highlighting the need for both formal and informal recruitment efforts. Once recruited, collectors are supposed to receive training about proper waste collection practices and a set of personal protective equipment (PPE) to wear while collecting waste. Similar to the first round of data collection, 73% of men and 60% of women received some form of training, but 39% of collectors reported receiving no formal training or capacity building under Manja Pamodzi.

The provision of official safety gear was another major component of Zambian Breweries Plc.'s recruitment and training process, and survey data indicate that more collectors in R2 received PPE than in R1. Compared to R1, more collectors received gloves, work suits, and boots in the second round of data collection. Despite these improvements, all collectors were to receive PPE under the program, and only 44% of collectors received gloves, 45% received work suits, and 31% received boots in R2. Despite some gains in collectors' receipt of PPE, frequent collector turnover meant that aggregators were often reluctant to provide PPE to collectors until they demonstrated a commitment to the waste collection. When asked how ZB Plc. addressed the selective distribution of PPE to collectors, staff mentioned that they encouraged aggregators to improve their tracking of collectors so that aggregators could locate an inactive collector and retrieve lost PPE. At the time of this report, it is unclear whether these efforts have been implemented by aggregators.

Waste Collection Strategies

Similar to the first round of data collection, waste collectors typically start their work day early in the morning and collect for anywhere from four to six hours each day. Collectors spend significant amounts of time walking between sites to collect

waste and a major portion of productive time is lost due to walking. For male and female collectors, common sites to collect waste included rubbish heaps or dump sites, drainage areas, markets, the local university, and sports stadiums. Collectors often adopted several strategies to ensure they collected adequate quantities of waste including: collecting waste early in the day (before other collectors had the opportunity to collect waste or before recyclables were destroyed), developing partnerships with individuals who could alert a collector of large amounts of accumulated waste, collecting waste that was more valuable or less likely to decompose if stored for extended periods of time, hiring others to collect waste for them, and collecting recyclables at strategic sites where a large amount of recyclables could be found (e.g., bars, landfills, markets, universities, etc.).

Challenges Faced by Collectors

Low pay and a lack of protective gear were cited most often as the main challenges facing collectors. Among those who dropped out of the program, 47% reported that low pay was the primary reason for leaving Manja Pamodzi. Relatedly, when asked why others do not join the program, 59% of those surveyed noted that the lack of adequate pay was a major deterrent to prospective collectors, though this represents a slight drop since the first round of data collection (where 66% reported low pay as the reason others do not become waste collectors). Collectors also mentioned lack of storage and transportation as major program challenges. In addition to the lack of transport and storage, many waste collectors still experienced social stigma.

Changes to the Economic Well-being of Collectors

Survey data showed that collectors experienced some economic gains as a result of waste collection work. 63 percent of collectors sampled in R2 believed that their household was economically “better off” since they started collecting waste and more households reported that they missed fewer meals since engaging in waste collection. 78 percent of active collectors from R2 reported that the occurrence of missed meals had decreased since working as a Manja Pamodzi collector. These positive findings must be interpreted with some caution, however, as 51% of active collectors from R2 still reported that a member of their household recently missed a meal, and 32% of households believed their household income has remained largely the same since working for Manja Pamodzi. One possible explanation for the contradiction between qualitative and quantitative data is explained when examining the characteristics of those who report changes to their economic well-being. Specifically, of our R2 sample, those who reported being “better off” as a result of Manja Pamodzi were also those with much higher amounts of waste sold during the last sale. More productive collectors are likely to see the greatest economic gains given that waste collection is, according to one Manja Pamodzi aggregator, a “business of volume.”

The Processor Experience Under Manja Pamodzi

Since the beginning of Manja Pamodzi in 2015, the number of recycling processing companies involved in the program increased from just four processors in Year 1 (September 2015 to August 2016) to twelve processors by the end of Year 3 (August 2018). According to Zambian Breweries Plc. staff, there has been a growth not only in the number of processors involved in Manja Pamodzi, but also in Lusaka, broadly. Several factors spurred this growth including: the increased amount of post-consumer packaging waste generated from changes in consumption patterns, advances in technology that make it possible to recycle and process more waste and turn waste into products ready for market, and the lack of existing laws that enforce tax remittance for processing companies (further making recycling potentially quite lucrative because profits are not liable to statutory deductions).

According to Zambian Breweries Plc. staff, the increased number of processors involved in the program not only increased competition between processors-thereby allowing ZB Plc. to negotiate for higher prices of recyclables-but also expanded the types of recyclables that can be processed under the program.

In addition to low quantities of waste received, processors also mentioned numerous logistical challenges associated with Manja Pamodzi. Specifically, several processors complained that deliveries from Manja Pamodzi were irregular and the waste was not always the correct type.

Waste in the Environment

Manja Pamodzi waste collectors collected waste primarily from landfills, local bars, markets, roadside drains, shopping malls, and schools and universities. IGP monthly progress reports show that the largest share of recyclables collected in R1 and R2 under Manja Pamodzi was from the Chunga area in Lusaka, likely owing to the Chunga landfill in this area.

Most respondents believed that Manja Pamodzi led to an overall reduction of waste in their communities and also brought several additional benefits including a reduced risk of cholera and reduced blockage of drains. However, some respondents believed that collectors' emphasis on collecting valuable recyclables led to a reduction of only certain kinds of materials.

AIR cannot accurately assess the extent to which Manja Pamodzi contribution to an overall reduction of waste in these communities and in the city overall because we do not have accurate data on the total amount of recyclable waste generated in the city during this time period. However, data from Zambian Breweries Plc. shows that approximately 3,800 tons of recyclable waste were collected between February 2015 and May 2018. Clear PET, LDPE, and cardboard were the most widely collected materials, while colored PET, HDPE, and cartons were the least collected. This represents a slight shift in the amount of LDPE collected between the first and second rounds of data collection; in R1, LDPE was the third most collected material (below cardboard and clear PET), but has since moved to the second most collected material.

EVALUATION METHODOLOGY
Other (Performance Evaluation)

UNITS OF ANALYSIS
Individuals

KIND OF DATA
Sample survey data [ssd]

TOPICS

Topic	Vocabulary	URI
Water, Sanitation and Hygiene	MCC Sector	

Coverage

GEOGRAPHIC COVERAGE
In order to professionalize waste collection in the urban and peri-urban areas of Lusaka, MP established eight aggregator sites in seven districts with large numbers of informal waste collectors. These districts were Chunga, Ngombe, Chawama, Matero, Mtendere, George, Kalikiliki, and Chibolya.

UNIVERSE
For quantitative data collectiion, we surveyed waste collectors operating under the Manja Pamodzi program who brought recyclables to the aggregator at least once or had a static aggregator in their area. This population included both active and inactive collectors

For qualitative data collection, FGDs were conducted with active and inactive male and female waste collectors and learners. KIIs were conducted with Zambian Breweries program staff, MCA-Z staff, aggregators, processors, and community leaders [including teachers, neighborhood health committees (NHCs), community-based enterprises (CBEs), and ward development committees (WDCs)]. Our sampling strategy was purposive, and participants were selected based on their role in the Manja Pamodzi program. 31 KIIs were conducted during R1 and 32 KIIs during R2. 15 FGDs were conducted during R1 and 20 were conducted during R2. 4 time-motion exercise were conducted during R1 and R2.

Producers and Sponsors

PRIMARY INVESTIGATOR(S)

Name	Affiliation
American Institutes for Research	

FUNDING

Name	Abbreviation	Role
Millennium Challenge Corporation	MCC	

Metadata Production

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Name	Abbreviation	Affiliation	Role

Name	Abbreviation	Affiliation	Role
American Institutes for Research	AIR		Independent Evaluator

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MCC Compact and Program

COMPACT OR THRESHOLD
Zambia Compact

PROGRAM
MCA-Z supports the implementation of water supply, water quality, sanitation, and hygiene interventions under the Lusaka Water Supply Sanitation and Drainage Project (LWSSD). The objective is to expand access to, and improve the reliability of, water supply and sanitation, and to improve drainage services in select urban and peri-urban areas of the city of Lusaka. The program logic suggests that these improvements will in turn decrease the incidence of waterborne and water-related diseases (such as diarrhea), generate time savings for households and businesses, and reduce nonrevenue water in the water supply network. The project focuses specifically on investments in (1) infrastructure development and rehabilitation, and (2) the provision of technical assistance to the Lusaka Water and Sewerage Company (LWSC; the provincial utility responsible for the management of Lusaka's WASH assets and the provision of WASH services) and the Lusaka City Council (LCC; the government entity that manages the city's drainage infrastructure and services). The technical assistance component includes the IGP, of which AIR is conducting a performance evaluation. The IGP is intended to increase and sustain the benefits of the MCC Compact investments in Zambia by supporting innovative projects that achieve Compact and IGP goals. Under the IGP, Zambian Breweries was selected as one of five grantees during the first grant cycle, and it began implementation of the Manja Pamodzi solid waste management program shortly after receiving the grant award in 2015.

MCC SECTOR
Water, Sanitation and Hygiene (WASH)

Sampling

Study Population

For quantitative data collectiion, we surveyed waste collectors operating under the Manja Pamodzi program who brought recyclables to the aggregator at least once or had a static aggregator in their area. This population included both active and inactive collectors For qualitative data collection, FGDs were conducted with active and inactive male and female waste collectors and learners. KIIs were conducted with Zambian Breweries program staff, MCA-Z staff, aggregators, processors, and community leaders [including teachers, neighborhood health committees (NHCs), community-based enterprises (CBEs), and ward development committees (WDCs)]. Our sampling strategy was purposive, and participants were selected based on their role in the Manja Pamodzi program. 31 KIIs were conducted during R1 and 32 KIIs during R2. 15 FGDs were conducted during R1 and 20 were conducted during R2. 4 time-motion exercise were conducted during R1 and R2.

Sampling Procedure

AIR worked with Zambian Breweries to identify all waste collectors under the program. For the first round of data collection, all the collectors that appeared on the lists obtained were then selected to participate in the waste collector survey. To ensure that no collectors had been left out of the survey, the data collection team also conducted a snowballing approach by asking each interviewed collector for names of colleagues who were also collecting under Manja Pamodzi. The final list included 389 collectors from 7 areas with static aggregators in peri-urban Lusaka: Chawama, Chunga, George, Kalikiliki, Matero, Mtendere, and Ngombe. The team attempted to survey all of the 389 collectors. However, a total of 101 participants could not be found or had permanently moved out of Lusaka. This high number was due to the nature of the existing collectors' list: many lists did not have functioning phone numbers or other clear identifying information. The snowball approach helped recover some of these contacts, but it worked better for active collectors since fellow collectors were less likely to know someone who started and then dropped out of the programme. In addition to the 101 participants who could not be found, 29 could not be interviewed for other reasons such as refusals to participate. The final sample included 250 participants who were interviewed. This sample was considered as representative because all collectors under the program who could be found were interviewed.

Manja Pamodzi added one additional aggregator site between R1 and R2. As a result, AIR sampled waste collectors from the 8 areas with static aggregators in peri-urban Lusaka: Chawama, Chunga, George, Kalikiliki, Matero, Mtendere, Ngombe, and Chibolya.For the second round of data collection, AIR sampled 177 collectors (98 active and 79 inactive). Of this sample, only 14 collectors participated in the R1 survey. We attempted to sample all collectors surveyed and interviewed in the first round of data collection (including those that have subsequently dropped out), plus any new collectors that have joined since the first round of data collection. This longitudinal approach would have allowed us to present changes over time for a subset of collectors who have been involved in the program during both phases of data collection. However, when attempting to obtain lists of active and inactive collector from aggregators, researchers found that no aggregators were able to provide a complete list of collectors in their areas. Among those aggregators who registered collectors, the lists often lacked the identifying information necessary to rigorously sample all collectors.

In response to this challenge, AIR again set up appointments with aggregators for sensitization meetings, but all sensitization meetings were poorly attended. Based on these sensitization meetings and contact information for collectors from the first round of data collection, AIR constructed a list of collectors to be surveyed for R2. The constructed list of collectors consisted of 337 collectors, 250 of the same collectors surveyed at baseline and 87 new collectors from the sensitization meetings. Of these 337 collectors, only 177 participated in the R2 survey, the remaining 160 collectors could not be located or refused to participate.

Weighting

Weights were not used in the analysis of data.

Questionnaires

Overview

The collector survey was a structured questionnaire with a total of nine sections, which were : 1) general demographic information about collectors; 2) collector tenure in Manja Pamodzi and reasons for joining and leaving the program; 3) training received and training quality; 4) collector's standard of living; 5) the experience working with aggregators and the different materials and respective weights collected by the collector; 6) a typical working week for the collector; 7) collectors' employment outside of Manja Pamodzi; 8) collectors' income and various monthly expenditures; and 9) the perceptions of waste collectors and waste collection as an occupation. The questionnaire was administered to the participant by a trained enumerator after getting consent from the particpant and each interview lasted about thirty to sixty minutes.

Data Collection

Data Collection Dates

Start	End	Cycle
2017-07-12	2017-08-02	N/A
2018-06-04	2018-08-06	N/A

Data Collection Mode

The data was collected by means of a survey interview using a tablet. Enumerators would identify each respondent and then find a comfortable place to sit and conduct the interview.

Questionnaires

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Data Collectors

Name	Abbreviation	Affiliation
Palm Associates		

Data Processing

No content available

Data Appraisal

No content available